

REMARKS

This paper is filed in response to the official action dated May 14, 2007 (the official action). This paper is timely-filed as it is accompanied by a petition for an extension of time to file in the second month and authorization to charge our deposit account no. 13-2855 to cover the requisite fee.

By the foregoing, claims 1, 4, 7, 10, 12, 13, 14, 17, 23, and 30 have been amended, claims 2, 3, 5, 6, 8, 9, 11, 15, 16, 18-22, 24-26, and 29 have been canceled without prejudice or disclaimer, and claims 32 and 33 have been added. No fee is due for new claims 32 and 33. Furthermore, the claim amendments are supported throughout the specification and in the original claims. No new matter has been added.

All pending claims 1-31 have been rejected. Claims 1-7, 10, 14-16, 28, and 30 were rejected as obvious over U.S. Patent No. 6,518,962 to Kimura et al. (“Kimura”) in view of U.S. Patent No. 6,414,661 to Shen et al. (“Shen”). Claims 8, 9, 11-13, 17-27, 29, and 31 were rejected as obvious over Kimura and Shen further in view of U.S. Patent No. 6,738,031 to Young et al. (“Young”).

Claim 1 was objected to for including a typographical error. The typographical error has been corrected and therefore the objection should be withdrawn.

Additionally, claim 16 was rejected as being directed to non-statutory subject matter. This rejection is moot in view of the cancellation of claim 16 herein.

The other bases for the claim rejections are addressed below in the order presented in the official action. Reconsideration of the application is solicited in view of the foregoing amendments and the following remarks.

CLAIM REJECTIONS – 35 U.S.C. §103(A)

All pending claims were rejected as variously obvious over Kimura, Shen, and Young. The applicants respectfully traverse the rejections.

A *prima facie* case of obviousness must satisfy three legal requirements. First, there must be some suggestion or motivation, either in the references themselves, or in knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. *See* M.P.E.P. §2143.

Kimura describes a voltage-driven active matrix pixel (see Figure 1). By voltage-driven, it is meant that the voltage on the gate connection of the drive transistor sets the pixel brightness, rather than the brightness being set by an adjustable constant current.

Young also describes a voltage-driven pixel drive circuit in which the voltage on capacitor 36 sets a brightness of OLED 20 (*see, for example, figure 2*).

Shen adds nothing further to the analysis.

When rejecting original claim 1, the examiner referred to Kimura at column 22 lines 10 to 51 (*see the paragraph bridging pages 4 and 5 of the Office Action*), which provides a convenient summary of the operation of Kimura. The applicants submit that Kimura addresses the following problem: over time a data signal with the same voltage results in decreased driving current, and thus decreased luminescence due to deterioration over time (*see column 22, lines 18 to 26*). Kimura teaches that this problem can be mitigated by increasing the output voltage (*see column 22, line 35*). This is achieved by using current measuring equipment 16 (*see, for example, figure 6*) and taking appropriate corrective action based on that measurement.

By contrast, the pending claims address a different problem having different requirements, and arrive at a different solution. The problem addressed by the pending claims is to increase efficiency of an active matrix electroluminescent display by reducing power consumption.

Claim 1 recites a constant current drive (to determine a brightness of the display element). A constant current generator restricts the available range of power supply voltages because a constant current generator has a compliance which determines the difference between input and output voltages required in order to deliver a set current. Thus, claim 1 recites a solution which is neither taught nor suggested in any of the cited prior art.

Claim 17, which corresponds to claim 1, is patentable for corresponding reasons.

New independent claim 32 is directed to a specific type of display in which the gate voltage on the drive transistor of an active matrix pixel decays over time, the rate of decay being determined by a photodiode coupled across a capacitor storing a drive voltage for the display element, the rate of decay being proportional to the pixel brightness. This type of display has to be driven cyclically because of the decay in stored voltage.

It is respectfully submitted that there is nothing in any of the cited documents that either teaches or suggests a power controller "configured to reduce said power supply voltage in response to said sensed [gate connection] voltage such that said gate connection voltage of a brightest said display element has decayed sufficiently to switch said brightest display element off at the end of a driving cycle..." as recited in new claim 32.

Accordingly, the rejections have been overcome and should be withdrawn.

CONCLUSION

Should the examiner wish to discuss the foregoing, or any matter of form or procedure in an effort to advance this application to allowance, he is urged to contact the undersigned attorney.

Respectfully submitted,

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